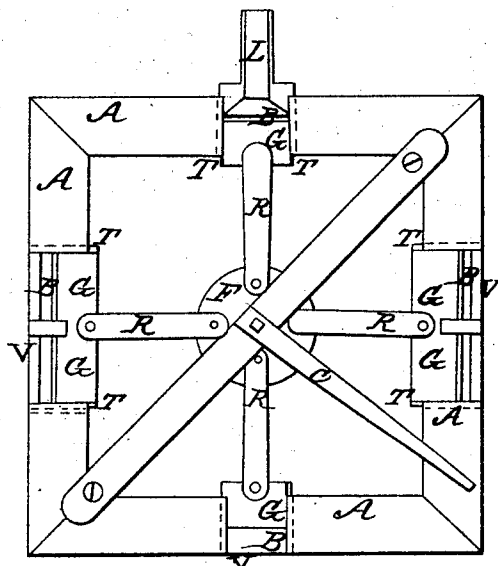


*G. V. Harner,*  
*Brick Machine.*

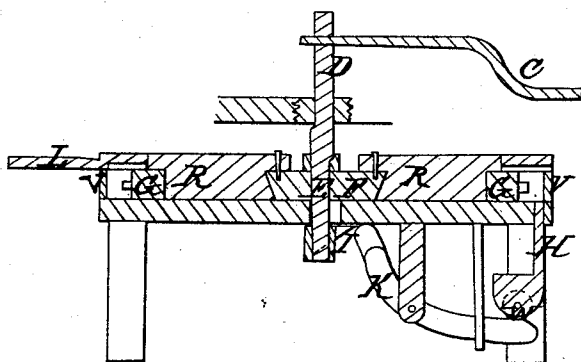
*No 711.*

*Patented Apr. 25, 1838.*

*Fig. 1.*



*Fig. 2.*



# UNITED STATES PATENT OFFICE.

GAYLORD V. HARPER, OF BATAVIA, NEW YORK.

## MACHINE FOR PRESSING BRICKS.

Specification of Letters Patent No. 711, dated April 25, 1838.

*To all whom it may concern:*

Be it known that I, GAYLORD V. HARPER, of Batavia, in the county of Genesee and State of New York, have invented a new and useful Improvement in Machines for Making and Discharging Brick, which is described as follows, reference being had to the annexed drawing of the same, making part of this specification.

The frame of this machine may be varied according to circumstances; one now in operation is square, and is made to operate upon four sets of molds; each of which may be made to make from one to four bricks as may be required. The frame A, Figure 1, however may be made with four, six, eight or more sides and a corresponding number of molds may be used.

The manner which I have adopted in building this machine is as follows;—first I frame large timbers together, which I shall denominate mud sills for the posts of the machine to rest upon these posts may be mortised into the sills at the bottom and into the frame at the top in the most permanent manner; they should be about three feet long so that the machine may stand at a convenient height to be easily managed by the tenders.

In the frame that is supported by the posts are contained the molds B, B, B, B, in which the bricks are pressed which is done in a horizontal manner by the power of one or more horses, which are attached to a sweep C and moving around in a circle turn a vertical shaft D, in which there is formed a crank E, from which crank shaft the requisite motion and power is obtained by passing the crank through a wheel or stock F to which are attached in the most convenient manner by means of rods R a number of pistons G corresponding with the number of molds to be operated upon—these pistons are made to move toward and from the center by giving to the shaft such form as will give an eccentric, crank, or cam motion to the wheel or stock to which the pistons are attached equal to the distance that these pistons are required to move in order to produce the pressing requisite, which is about one inch and a half; consequently this wheel or stock is made to move by the operation of the vertical crank shaft one inch and a half out of a circle in all directions

thereby giving the requisite motion to each of the pistons: producing the necessary pressure:—The end of the pistons are exactly the size of one side of the brick and fills the top of the mold; the bottom is formed by the frame at V. Beneath each mold is a vertical discharger H Fig. 2 which forms one side of the mold and is so arranged that when the piston is drawn back this discharger is raised thus throwing the brick when pressed entirely out of the mold. The manner in which this discharger is raised and lowered is by attaching to the lower end of the shaft a block of wood or cast iron forming an inclined plane I operating upon the end of a lever or treadle K, at every revolution of the vertical shaft the other end of said lever being extended to the bottom of the discharger upon which it rests and the lever or treadle being operated upon by the inclined plane will raise the discharger the required distance for discharging the brick. A friction roller W is placed in the lower end of the discharger for the end of the lever to press against in raising it.

To form the opposite side of the mold from that formed by the discharger and for better confining the clay in the mold there is a slide L, that is made to cover the mold as soon as the clay is admitted, so that none shall escape or raise up during the operation of pressing, this slide may be operated upon in being drawn in and out by the operative parts of the machinery or by the attendants as may be thought best.

In order to confine the pistons in the molds and have them move accurately there is formed a tenon T on each end of the piston that moves in a groove in the corresponding side of the mold,—represented by dotted lines.

The before described machine is from four to eight feet square—or the same number of feet in diameter when made circular; or thereabout.

Operation: The clay being sufficiently tempered is put into the spaces or molds B formed by the frame, pistons, and dischargers; the slides L are then inserted which forms the upper side of the mold. The horse attached to the sweep C is then driven around which turns the crank shaft causing the wheel through which it passes and to which the pistons are attached to per-

form an eccentric movement which causes the pistons to be pushed from and drawn toward the center of the wheels in succession thus pressing the brick in the molds one  
5 after the other. Before the inclined plane or cam I acts upon the dischargers the slides L must be withdrawn to allow the brick to be discharged.

The invention claimed and desired to be secured by Letters Patent consists in— 10  
The mode of pressing and discharging the bricks as before described in combination.

GAYLORD V. HARPER.

Witnesses:

ANSON BAKER,  
ELISHA BAKER.